BUDGET INFORMATION, ANALYSIS, AND PROJECTION SYSTEM AND METHOD

BACKGROUND OF THE INVENTION

Cross-Reference to Related Application

This application is a continuation of application Serial No. 09/812,730, "Budget Information, Analysis, and Projection System and Method," filed March 20, 2001, now Patent No. 6,687,713, which is a continuation-in-part of application Serial No. 09/794,304, "Budget Information and Analysis System and Method," filed February 27, 2001, which application claims priority from provisional application Serial No. 60/185,830, filed February 29, 2000, entitled "Querying Method to Budget Information Network via Internet Access." The disclosures of these applications are hereby incorporated by reference into the present application.

Field of the Invention

The present invention relates to systems and methods for accessing budgetary information and, more particularly, to such systems and methods for accessing governmental budgetary information via a network and also for performing budgetary projections therefrom.

Description of Related Art

Governmental budget systems, such as that known in the art in Florida, are often housed on mainframes, with program files being difficult to access and manipulate, especially for a person not conversant with complex computer coding. To properly use and

understand such applications typically requires extensive training and a background in the budget desired to be accessed. For elected officials, a staff is required to mine data as desired; for a person outside the government, it would be virtually impossible to obtain such data in a desired form.

In the exemplary Florida system, operational systems data for state personnel, accounting, budgeting, and planning are housed in separate mainframe computers that are not linked and are incompatible. Reengineering such a system would present a difficult, time-consuming, and expensive challenge.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a system and method for accessing budgetary data via a network.

It is a further object to provide such a system and method that is indexed under a plurality of categories.

It is another object to provide such a system and method that is accessible via the Internet.

It is an additional object to provide such a system and method that contains links to related electronic sites for correlating budget information with other data.

It is also an object to provide such a system and method that is tailored for governmental budgetary data.

It is yet a further object to provide such a system and method that can perform zero-based budget analysis.

It is yet another object to provide such a system and method that can perform formula-based budget analysis.

It is yet an additional object to provide such a system and method that can perform budgetary projections.

These and other objects are achieved by the present invention, a budget information system that comprises a budgetary information database that includes numerical data and textual identifiers imported from a remote site. The numerical data are extracted from the remote site into a spreadsheet or similar application, and the textual identifiers are extracted from the remote site into a word processing application. The system also comprises means for receiving a keyword selected by a user and means for matching the database with the keyword. The keyword "selection" may comprise, for example, the user's entering the keyword into a search engine; alternatively, the selection may comprise clicking an item on the screen with a pointing device, that item linked to related data in the database. Means for formatting and outputting related budget data and a textual identifier that were found from the database search commensurate with the keyword match permit the user to receive correlated budget data on a desired topic.

Another aspect of the present invention are methods for building, accessing, and using a budget information system. This method comprises the steps of accessing a database containing raw budget data and textual information on a plurality of budgetary subdivisions. Next a list of titles of at least some of the budgetary subdivisions is compiled, and a first computer screen containing the list of titles is created.

In use, a numerical record on a selected budget subdivision is retrieved into a spreadsheet application, and a textual record on the selected budget subdivision is retrieved into a word processing application. A second screen is then formatted that contains the numerical record and the textual record in tabular form, and a link is provided between a title of the subdivision on the first screen with the second screen.

Yet another aspect of the invention is a budget information and creation system that comprises a budgetary information database. This database comprises numerical data and textual identifiers imported from a remote site. The numerical data are extracted from the remote site into a spreadsheet application, and the textual identifiers are extracted from the remote site into a word processing application.

Means are provided for interfacing with a user and for permitting the user to create a budget for a subdivision of the remote site using at least some of the numerical data and textual identifiers. Once the budget is created, means are employed for transmitting the created budget to the remote site.

A further aspect of the present invention is a budget projection system that comprises the a budgetary information database as above and means for interfacing with a user. Means are also provided for permitting the user to import and view a prior budget for a subdivision of the remote site using at least some of the numerical data and textual identifiers. The user is permitted to enter a projection variable, and means are employed for calculating a projected budget based upon the projection variable and the prior budget.

A multiplicity of features is provided by the present system and methods, including, but not intended to be limited to:

- the ability to review data imported from disparate planning, budget, accounting, and personnel sources across subdivisions/agencies in order to effectively manage resources;
- the ability to access the data via a network, such as the Internet, from any location and any time;
- the integration of sources of operational data;
- a searchable data system;
- the ability to track items of interest for review, including business processes that are deemed to be of high or low priority, the budget needed to support that process, the positions necessary, and the expense related to that process;
- the ability to review business processes
- the ability to "drill down" (expand) expense category details;
- the ability to review employee position data in context of the planning documents, such as support of a particular process, salary information, work location, etc.;
- the ability to model budget projections based upon prior data and a predetermined projection variable; and
- the ability to perform formula-based budgeting.

The features that characterize the invention, both as to organization and method of operation, together with further objects and advantages thereof, will be better understood from the following description used in conjunction with the accompanying drawing. It is to

be expressly understood that the drawing is for the purpose of illustration and description and is not intended as a definition of the limits of the invention. These and other objects attained, and advantages offered, by the present invention will become more fully apparent as the description that now follows is read in conjunction with the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGS. 1A,1B is a flow chart of the method for creating the information system of the present invention.

FIG. 2 is a schematic diagram showing a functional analysis of spending data.

FIG. 3 is a home page screen for the system accessed via the Internet.

FIG. 4 is a decision chart of information screens accessible by the system.

FIG. 5 is an exemplary contact data screen.

FIG. 6 is a flow chart of the method for entering the system for accessing budgetary data using the system of the present invention.

FIG. 7 is a screen tabulating budget issues for the current fiscal year.

FIG. 8 is a screen tabulating budget issues with one issue further divided for the current fiscal year.

FIG. 9 is a screen tabulating line item divisions for a selected issue.

FIG. 10 is a screen tabulating budget detail information and presenting issue narrative justification.

FIG. 11 is a screen expanding on budget details for a selected item.

FIG. 12 is a screen giving agency budget details.

FIG. 13 is a screen giving search results.

FIG. 13A is a data flow chart of the data integration system.

FIG. 14 is a screen listing budget bills.

FIG. 15 is a screen showing section titles of a selected bill.

FIG. 16 is a screen expanding on a selected section to give items and associated verbiage.

FIG. 17 is a screen giving details of a specific selected appropriation.

FIG. 18 is a screen giving results of a search on budget bills.

FIG. 19 is a screen giving details of an appropriation.

FIG. 20 is a screen for selecting items to be tracked.

FIG. 21 is a screen containing details of a tracked folder.

FIG. 22 is a screen containing personalized comments and textual information on a tracked item.

FIG. 23 is a list of reference materials available on the system.

FIG. 24 is a screen listing available reference materials.

FIG. 25 is a flow chart illustrating a method of creating a budget using the system of the present invention.

FIG. 26 is a flow chart illustrating a method of performing formula-based budget projection.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A description of the preferred embodiments of the present invention will now be presented with reference to FIGS. 1A-26. The particular embodiment disclosed herein is directed to an interactive budget information system for state or other governmental budgetary data, here Florida. It will be understood by one of skill in the art, however, that the system is adaptable to any budgetary information desired for presentation to a remote user, such as corporate or other institutional budget and financial data. Therefore, the generic term *subdivisions* used herein refers in the specific governmental case to *agencies* or *departments*; likewise, the subdivisions are broken down into *line items*, which refers to *issues*, which themselves are typically broken down further into individual expenditures.

Creation of Budget Information System

The method for building the budget details aspect of the system **10** of the present invention (block **100**) is illustrated in flowchart form in FIGS. 1A,1B, and the functional flow of agency data used to supply the system **10** is shown in FIG. 2. In the particular embodiment illustrated here, the budget data are imported from a mainframe computer located at a central site, such as a state capital. In the specific case of Florida, such data files are received from the Office of the Governor, Office of Systems Design and Development. A new document is created in the system site to which the imported data files are attached. This step comprises importing numerical data into a spreadsheet application, such as, but not intended to be limited to, Excel or Lotus software (block **101**), creating a budget detail database and excluding portions of the files not desired for inclusion in this database, such as Bill data. The next step comprises importing the textual

data into a word processing application, such as, but not intended to be limited to, Lotus Notes or Lotus Script (block **102**). The numerical data are linked to the textual narratives (block **103**), as will be discussed in the following. These data are imported into a system site computer, where all further processing (block **104**) takes place. Some form of data massaging may be required, as will be understood by one of skill in the art, depending upon the form in which they are supplied, such as uncompressing or removing record delimiters.

In the current embodiment, the system **10** integrates data from a plurality of mainframe computers, each housing disparate systems, and creates a web-enabled information site. Such an integration of information will enable users to review planning, budget, accounting, personnel, purchasing, and investment data across agencies in order to effectively manage resources. Referring to FIG. 2, it can be seen the budget data flow from, for example, a state agency **20**, which provides data for the agency measurement system **21**. This system **21** contains defined business processes and planning documents **22**, including planning documents for each agency, long-range program plans, business processes, and data that are captured at a predetermined frequency, such as quarterly.

The agency measurement system **21** provides data for the state budgeting system **23**, which contains mainframe budget detail files **24**. Among these are included agency budgeting data, with numeric and narrative data included, agency requests, Governor's recommendations, house/senate recommendations, conference appropriations bills, and veto items.

The state budgeting system **23** provides data for the state accounting system **25**, which contains the mainframe accounting file object codes **26**, including expense data on contract information and expense type. The data are captured at a predetermined frequency, such as quarterly. The state accounting system **25** provides data for the state personnel system **27**, which contains mainframe personnel data such as salary, title, location, and job type, and information on vacant positions **28**, including salary range, title, location, job type, and length of the vacancy. Data are also captured at predetermined frequencies, such as quarterly. Purchasing data **29a** and Investment data **29b** feed, along with budgeting **23**, accounting **25**, and personnel **27** systems feed into an integrated financial management system **11**. The system components **22,24,26,28** are further integrated **12** by the system **10** and serve as sources for the system **10**. Steps **101,102** are repeated each time a new iteration of the state budget is released, from an original agency request, through a legislative session with each version of the budget from the House and the Senate, and the Governor's office, to the final appropriations and the Governor's vetoed items. Thus FIG. 2 serves as a template indicating the structure of a zero-based budget reviewing system, permitting data integration, search capabilities, and data mining and reporting, as will be detailed in the following.

The system **10** also incorporates the building of a plurality of linked screens that will use all the budgetary numerical and textual data housed in the local computer. These screens, which will be detailed in the following section, include a "home," or entry, page comprising a sign in feature (name, password, etc.). Linked to the home page are a plurality of system sectors accessed by selecting from a plurality of tabs.

The system **10** also permits a user to access information on budget bills (block **105**) as above for the budget data. This aspect of the system **10** is created by importing data from the mainframe computer at the central site (block **106**), copying the data into a file, massaging the data as needed (block **107**), copying the data into the database created during the creation of the Budget Details, preparing the table titles from the word processing file, and formatting the information into the word processing program (block **108**).

A further feature of the system **10** comprises the ability to track subdivisions of the budget database (block **109**). This feature is built by using a software application that has been written to establish tracking records in a created tracking database for each item tracked. This record is unique to the user creating the tracking record and has a unique folder name associated therewith. If the tracking record already exists, it is updated with the latest budget data. The tracking record is linked to the original budget item by a unique ID number. When the tracking record, which is editable for the user, is opened, the original budget item document is retrieved and displayed within the same document, which enables the tracking item to appear as the user's private version of the original document, with the user's comments associated to the budget item. The user interface screen, which is adapted to receive user a selection (block **110**), triggers a polling of the subdivision related to that selection (block **111**) to update the data each time the user accesses the system **10**. The user comments (block **112**) remain with the folder item.

Another feature of the system **10** comprises the presentation of a list of contacts (block **113**) associated with each subdivision/agency. This element is built by pulling

personnel data imported at step **102** into a file (block **114**) and creating a screen listing name and contact information (block **115**).

A resources sector is created (block **116**) to include reference information, with data included from the importation of data at step **102** and other explanatory material (block **117**) to assist a user in navigating the state government system, which may have been created from other sources as well as the central site database to build a set of linked resources screens (block **118**).

Accessing and Using the Budget Information System

In the exemplary embodiment presented herein, a user desiring budgetary information enters the system **10** via a network, such as the Internet, by entering a web site hosting the system **10**. A home page screen **30** (FIG. 3) appears, with a description of the site **301** and various electronic links ("hot" links) to, among other things, announcements **302**. In order to view the data, the user in this embodiment must sign in **303**, although this is not intended as a limitation. A plurality of tabs **304-309** at the top of the screen **30** provide access to the identified sectors of the system **10**, the decision hierarchy for which is shown in FIG. 4.

If the user selects the "contacts" tab **305**, block **310** on FIG. 4, a screen **41** appears (FIG. 5) that lists budget contacts broken down into subdivisions/agencies. Each agency listing includes contact people reporting to one or more parts of the government **400**, by name **401**, telephone number **402**, and hot link to email **403**. Also belonging to the contact

sector are screens (not shown) for budget contacts **311**, business contacts **312**, purchasing contacts **313**, technology contacts **314**, and legislative contacts **315** accessible by subtabs **404-407**.

The method for viewing details of a budget is illustrated in flowchart form in FIG. 6. If the user selects the "budget details" tab **306**, block **320** on FIG. 4, block **201** on FIG. 6, a screen **50** appears (FIG. 7) that lists all state budget issues **501** alphabetically for the current fiscal year. Tabulated on this screen **50** (block **322**, FIG. 4) are data for appropriated spending **502**, number of positions allocated **503**, and the percentage of total budgeted funds **504**. Similar screens are available for historical data **321** and planned future data **323**.

An additional feature of this sector of the system **10** is the ability to "drill down" each budget issue **501** and display further divisions, or line items, under a selected budget issue **501**. This is accomplished by selecting one of the issues (block **307**, FIG. 6), which brings up screen **53** (FIG. 8), selected by selecting "Children & Families" **505** on FIG. 7. Here finer divisions **531** are broken out, in similar tabular form to FIG. 7.

Yet more information is available by selecting one of the line items **531**, here "Agency Unique Issues," to bring up individual budget items **541** on screen **54** (FIG. 9, block **308** on FIG. 6), tabulated as before. Also indicated on this screen **54** to the left of the items **531** is how the funding on each item **531** arose, with icons indicating that the appropriation was agreed upon **542** or compromised upon **543**.

Selecting one of the individual items **541** (block **309**, FIG. 6) brings up a budget detail information screen **55** (FIG. 10). This screen **55** gives budgets **551** as proposed by various government sectors and the number of positions **552** proposed. Additionally, an issue narrative **553** that had been submitted by each state agency is presented.

Selecting the "Display Dollar Breakout Options" link **554** (block **316**, FIG. 6) brings up a screen **56** (FIG. 11) indicating the funding sources **561**, budgeted amount **562**, and positions **563** for each breakdown. Yet further detail is available by selecting one of these sources **561** to bring up screen **57** (FIG. 12) to view agency budget details. Additional details may be accessed by drilling down into specific expense categories, selected by budgeting, accounting, accounting details, or personnel.

Thus, using the present system **10**, detailed budget information can be accessed and reviewed for the current year, including agency budget request, governor's recommendations, legislative proposals, and a final conference committee report (i.e., a general appropriations act for the fiscal year). Access is also available for next year's budget preparation, beginning with the agency budget request, governor's recommendations, legislative proposals, and final conference committee report. Searches can be performed on a word or group of words and can have results reported by continuation base, agency initiatives, and capital outlay projects.

In addition to "drilling down" by selecting links on any of the available screens, it is also possible in the present system **10** to search by a keyword, by selecting the "Search" option **506** of any of screens **50,53,54** (block **317**, FIG. 6). In the example screen **57**

illustrated in FIG. 13, a search has been performed on the word *caseload* **571**, with a list of linked items **572** tabulated as previously.

The features of this aspect of the invention include the ability for the user to look at an agency from different perspectives, such as business, accounting, budgeting, or personnel, and from that perspective to drill down to view other aspects of the budget. As an example, if the user wished to review travel expenses, he/she would select the "accounting" portion and drill down to view the business processes that use the most travel monies, view personnel areas that use the most travel monies, investigate when the travel occurs during a fiscal year, or reveal what portion of the budgeted trave money has been spent to date.

All data are listed by agency, and are related across the modules by business function. The system allows agency analysis by business function, and a creation of analysis/recommendation documents at multiple levels, such as business process entry, agency structural hierarchy (department, division, bureau), and composite functionality, by pulling together business processes or hierarchical function levels, for example. An overview is presented in FIG. 13A, wherein planning data are loaded into the system (block **802**) from business processes or agency long-range program plans (block **801**), and existing budget data are integrated (block **803**). Data elements are downloaded from a source of data (block **804**), reports are generated (block **805**), and the accounting data are loaded (block **806**). Data elements are also downloaded from a source to a spreadsheet application (block **807**), personnel reports are developed (block **808**), and personnel data are loaded (block **809**).

With the data loaded, the databases are linked (block **810**), and the planning (block **811**), budget (block **811**), budget (block **812**), accounting (block **813**), and personnel (block **814**) modules created. From these the user can drill down, respectively, into business processes (block **815**), budget detail files (block **816**), expenditures by object code (block **817**), and personnel data classified by such subcategories as base salary, location, and vacancies (block **818**).

The next sector of the system, budget bills **32**, is accessed by selecting tab **306**, which brings up a summary of budget bills on screen **58** (FIG. 14; blocks **330-339**). This screen **58** contains bills for current **581** and next **582** fiscal years, each listed item linked to further data. Selecting the current session's governor's recommendations, for example, brings up screen **59** (FIG. 15), which lists bill sections **591**. Each of these, in turn, is linked to a screen **60** (FIG. 16) that provides further details by agency **601**, including appropriations details **602**. These details **601** are again linked to an appropriation screen **61** (FIG. 17) containing information **613** sortable by fund **611** or issue/fund **612**.

Searches are also available by selecting the "Search" option **603** on screen **60** (FIG. 16), the results of which appear as on screen **62** (FIG. 18) for the words *law* and *screen*. Each of the listed items **621** tabulated under "Department/Appropriation Category" also has bill language **622** included and an appropriation number **623** for each. If one of these is selected, screen **63** (FIG. 19) appears, giving appropriations details **631**.

If the user selects the "tracking" tab **308**, a budget data tracking screen **63** (FIG. 20; block **340**, FIG. 4) that permits the user to customize one or more of the subdivisions **631**

to follow over the current fiscal year **341** or planning fiscal year **342** by updating any changes that occur in budget issues **343,344** or specific budget bill items **345,346** over time. Selecting a subdivision **631** places a checkmark in the associated box **632** and permits that item to be added to the tracking folder **633**. If an item **631** is selected, screen **64** (FIG. 21) is brought up, including details **641** of the tracked folder. Selecting one of the tracked items **632**, which appear in the user's folder **633**, brings up screen **65** (FIG. 22), on which personalized comments can be made **651** to be retained with the user's folder and on which textual information **652** appears regarding the budget item. If a word or phrase is entered into box **634**, screen **66** (FIG. 23) appears, wherein the search results are presented, along with links to the items' budget data.

If the user selects the "resources" tab **309** (block **350**, FIG. 4), access may be gained to reference materials (block **351**, FIG. 4) as listed on screen **67** (FIG. 24). The elements **671** of this list are all linked to information on subsequent screens, which include organizational charts, glossaries of terms, and user guide information. This list is not intended as a limitation, and other elements may be conceived by one of skill in the art.

The system **10** may also be used to create and submit a proposed budget for a subdivision, for example, for a state agency (FIG. 25). The user signs on to the system **10** (block **701**) as described above and brings up an input interface (block **702**). Typically the prior budget is accessed (blocks **703,704**), which enables updating rather than starting from scratch (block **705**), although this is not mandatory. The budget is created as desired (block **706**) and stored on the system **10** (block **707**). The budget data are encrypted

(block **708**) and are transmitted to the central budget database **23** (block **709**). The budget is also submitted to another entity, such as, for example, the Governor's Office of Planning and Budgeting (block **710**), and budget contacts are automatically notified that the budget is available for review (block **711**). The agency also produces a report on the proposed budget (block **712**), based upon templates provided in the system **10**. These templates are flexible and can be tailored to the user's desires.

Among the benefits of this aspect of the invention are that access is permitted at substantially any time and that secure transactions are assured. Online help is available, and access is permitted to budged preparation guidelines and recommendations. Discussion areas are available secured to each agency to provide agency-specific knowledge management. Finally, real-time access is permitted to budget contacts in the Governor's office, House, and Senate for assistance as soon as available.

Yet a further aspect of the present invention is a module for performing formula-based budget projections (FIG. 26). The user signs on as above (block **750**) and selects from a user interface at least one source of data to be used in a model (block **751**). In the case of a state budget, for example, county and/or tax roll data can be accessed (block **752**). Then other standard variables may be input by the user (block **753**), such as, but not limited to, base student allocation, spending category totals such as on transportation or books. Projection-specific variables are also input by the user (block **754**). A new spending category can be determined by executive/legislative policy, for example.

With the input provided to the system **10**, a spending projection is produced, for example, for each county (block **755**), and the projection is stored on the system (block

756). Further iterations may be carried out (block **757**) until the projection meets an intended budget-policy specification. A report can be output if desired (block **758**).

Among the features of this aspect of the invention are that it is easy to use, has online help available on inputs needed from the user, provides iterative processing, provides access to supporting data from multiple years as desired, is available over the Internet, and can provide reports to other interested linked parties.

In the foregoing description, certain terms have been used for brevity, clarity, and understanding, but no unnecessary limitations are to be implied therefrom beyond the requirements of the prior art, because such words are used for description purposes herein and are intended to be broadly construed. Moreover, the embodiments of the apparatus illustrated and described herein are by way of example, and the scope of the invention is not limited to the exact details of construction.

Having now described the invention, the construction, the operation and use of preferred embodiment thereof, and the advantageous new and useful results obtained thereby, the new and useful constructions, and reasonable mechanical equivalents thereof obvious to those skilled in the art, are set forth in the appended claims.